

## **STRAIN SENSORS BASED ON NANOWIRE PIEZORESISTOR WIRES AND ARRAYS**

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### **Abstract of the Disclosure**

A highly sensitive and ultra-high density array of electromechanical nanowires is fabricated. Nanowires are extremely sensitive to the strain induced by the attachment of biological and chemical species. Real-time detection is realized through piezoresistive transduction from the specially designed materials that form the nanowires. These  
10 specially designed materials include doped silicon or germanium, doped III-V semiconductors such as GaAs, GaN and InAs systems, and ultra-thin metal films.